

## Listing of Claims

1 1. (Original) A method for executing two or more computational operations upon  
2 elements of a data structure, the method comprising the steps of:  
3 (a) determining if any of the two or more computational operations to be executed  
4 are operable upon a same element;  
5 (b) determining if any of the two or more computational operations determined to  
6 be operable upon the same element are in kind operations;  
7 (c) determining if any of the two or more computational operations determined to  
8 be operable upon the same element and to be in kind operations are  
9 addition or assignment operations; and  
10 (d) executing the two or more computational operations determined to be operable  
11 upon the same element, to be in kind operations, and to be addition  
12 operations.

1 2. (Original) The method of claim 1 further comprising the steps of:  
2 (e) determining, of the two or more computational operations determined to be  
3 operable upon the same element, to be in kind operations, and to be  
4 assignment operations, if a same value is to be assigned to the same  
5 element; and  
6 (f) executing the two or more computational operations determined to be operable  
7 upon the same element, to be in kind operations, to be assignment  
8 operations, and to assign the same value to the same element.

1 3. (Original) The method of claim 2 further comprising the step of:

2 determining if any of the two or more computational operations determined to be  
3 operable upon the same element and to be in kind operations violate a  
4 limit, then not performing steps (d) or (f).

1 4. (Original) A system for executing two or more computational operations upon  
2 elements of a data structure, the system comprising:

3 (a) a process operable to determine if any of the two or more computational  
4 operations to be executed are operable upon a same element;

5 (b) a process operable to determine if any of the two or more computational  
6 operations determined to be operable upon the same element are in kind  
7 operations;

8 (c) a process operable to determine if any of the two or more computational  
9 operations determined to be operable upon the same element and to be in  
10 kind operations are addition or assignment operations; and

11 (d) a process operable to execute the two or more computational operations  
12 determined to be operable upon the same element, to be in kind  
13 operations, and to be addition operations.

1 5. (Original) A computer readable medium containing computer readable code, the  
2 medium comprising:

3 (a) a code segment for performing a process operable to determine if any of  
4 the two or more computational operations to be executed are operable  
5 upon a same element;

- 6 (b) a code segment for performing a process operable to determine if any of  
7 the two or more computational operations determined to be operable upon  
8 the same element are in kind operations;
- 9 (c) a code segment for performing a process operable to determine if any of  
10 the two or more computational operations determined to be operable upon  
11 the same element and to be in kind operations are addition or assignment  
12 operations; and
- 13 (d) a code segment for performing a process operable to execute the two or  
14 more computational operations determined to be operable upon the same  
15 element, to be in kind operations, and to be addition operations.

- 1 6. (Original) A processing system for executing two or more computational operations  
2 upon elements of a data structure, the processing system comprising:  
3 a processor, the processor
- 4 (a) determining if any of the two or more computational operations to be  
5 executed are operable upon a same element;
- 6 (b) determining if any of the two or more computational operations  
7 determined to be operable upon the same element are in kind operations;
- 8 (c) determining if any of the two or more computational operations  
9 determined to be operable upon the same element and to be in kind  
10 operations are addition or assignment operations; and
- 11 (d) executing the two or more computational operations determined to be  
12 operable upon the same element, to be in kind operations, and to be  
13 addition operations.

1 7. (Original) A method for categorizing two or more computational operations  
2 executable upon elements of a data structure, the method comprising the steps of:  
3 determining if any of the two or more computational operations violate a limit;  
4 and  
5 categorizing the two or more computational operations determined to violate the  
6 limit as not commutative.

1 8. (Original) A computer readable medium containing computer readable code, the  
2 medium comprising:  
3 a code segment for determining if any of the two or more computational  
4 operations violate a limit; and  
5 a code segment for categorizing the two or more computational operations  
6 determined to violate the limit as not commutative.

1 9. (Original) A method for categorizing two or more computational operations  
2 executable upon elements of a data structure, the method comprising the steps of:  
3 determining if the two or more computational operations to be executed are  
4 operable upon a same element;  
5 determining if the two or more computational operations determined to be  
6 operable upon the same element are in kind operations;  
7 determining if the two or more computational operations determined to be  
8 operable upon the same element and in kind operations are addition  
9 operations; and

10 categorizing the two or computational operations determined to be operable upon  
11 the same element, to be in kind operations, and to be addition operations  
12 as commutative.

1 10. (Original) The method of claim 9 further comprising the steps of:

2 determining if the two or more computational operations determined to be  
3 operable upon the same element and in kind operations are assignment  
4 operations;  
5 determining if the assignment operations are assigning a same value to the same  
6 element; and  
7 categorizing the two or computational operations determined to be operable upon  
8 the same element, to be in kind operations, and to be assignment  
9 operations assigning the same value to the same element as commutative.

1 11. (Original) A computer readable medium containing computer readable code, the  
2 medium comprising:

3 a code segment for determining if two or more computational operations to be  
4 executed are operable upon a same element of a data structure;  
5 a code segment for determining if the two or more computational operations  
6 determined to be operable upon the same element are in kind operations;  
7 a code segment for determining if the two or more computational operations  
8 determined to be operable upon the same element and in kind operations  
9 are addition operations; and

10 a code segment for categorizing the two or computational operations determined  
11 to be operable upon the same element, to be in kind operations, and to be  
12 addition operations as commutative.

1 12. (Original) A method for executing two computational operations upon elements of a  
2 data structure, the method comprising the steps of:  
3 executing the two computational operations if either computational operation does  
4 not violate a limit, and both computational operations do not operate upon  
5 a same element;  
6 executing the two computational operations if either computational operation does  
7 not violate the limit, both computational operations operate upon the same  
8 element, and both computational operations are addition operations; and  
9 executing the computational operations if either computational operation does not  
10 violate the limit, both computational operations operate upon the same  
11 element, and both computational operations are assignment operations that  
12 assign a same value to the same element.

1 13. (Currently Amended) A computer readable medium containing computer readable  
2 code, the medium comprising:  
3 a code segment for executing two computational operations if either  
4 computational operation does not violate a limit, and both computational  
5 operations do not operate upon a same element of a data structure;  
6 a code segment for executing the two computational operations if either  
7 computational operation does not violate the limit, both computational

8 operations operate upon the same element, and both computational  
9 operations are addition operations; and  
10 a code segment for executing the computational operations if ~~either one but not~~  
11 the other of the computational operations does not violate the limit, both  
12 computational operations operate upon the same element, and both  
13 computational operations are assignment operations that assign a same  
14 value to the same element.

1 14. (Currently Amended) A method for executing two computational operations upon  
2 elements of a data structure, the method comprising the steps of:  
3 determining if ~~either one or more of two~~ computational operations does not  
4 violates a limit;  
5 executing the two computational operations if either computational operation does  
6 not violate the limit, and both computational operations do not operate  
7 upon a same element;  
8 executing the two computational operations if:  
9 ~~either computational operation does not violate the limit, both~~  
10 computational operations operate upon the same element, ~~and~~  
11 both computational operations are addition operations, and  
12 one or none of the computational operations violate a limit, but not if both  
13 of the two computational operations violate a limit; and  
14 executing the computational operations if either computational operation does not  
15 violate the limit, both computational operations operate upon the same

16 element, and both computational operations are assignment operations that  
17 assign a same value to the same element.

1 15. (New) A method for executing two computational operations upon elements of a data  
2 structure, the method comprising the steps of:  
3 executing the two computational operations  
4 if both computational operations do not operate upon a same element,  
5 but not if both of the two computational operations do violate a limit; and  
6 executing the two computational operations  
7 if both computational operations operate upon the same element and both  
8 computational operations are addition operations,  
9 but not if both of the two computational operations violate a limit.

1 16. (New) The method of Claim 15, further including executing the computational  
2 operations  
3 if both computational operations operate upon the same element and both  
4 computational operations are assignment operations that assign a same  
5 value to the same element,  
6 but not if both of the two computational operations violate a limit.

1 17. (New) The method of claim 12, further including  
2 executing the two computational operations if one but not the other of the  
3 computational operations violates a limit, and both computational  
4 operations do not operate upon a same element.